ADEQ Arizona Department of Environmental Quality
Janice K. Brewer, Governor
Henry R. Darwin, Director

DRAFT PERMIT

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY CLASS I PERMIT

COMPANY: *Novo BioPower, LLC*
FACILITY: *Novo BioPower, LLC*
PERMIT #: **53023 (As Amended by 59767)**
DATE ISSUED:
EXPIRY DATE:

FACILITY SUMMARY

This Class I Air Quality Control Renewal Permit is hereby amended by Permit Number 59767 and issued to Novo BioPower, LLC, the Permittee, for the continued operation of a biomass fired electric generating facility in Snowflake, Navajo County, Arizona.

The power generating facility is fueled by paper fiber from the previously adjacent recycling paper mill and waste wood and bark from nearby forest salvage operations. The plant has a nominal rated capacity of 24 Megawatts (MW), and consists of an approximate 340 Million British thermal unit per hour (MMBtu/hr) boiler, steam turbine unit, a cooling tower, and wood handling equipment. The fuel is fired in the boiler to produce steam that is used to operate the steam turbine for producing electricity. The spent steam from the turbine is sent to a condenser to condense the steam back to water for reuse in the boiler. Water from the cooling towers is used to condense the steam in the condenser. Natural gas is used as a supplemental fuel during startups, shutdowns, and malfunctions.

The boiler stack is the primary sources of air pollutant emissions. The pollutants expected to be released in the stack emissions are carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO_2), particulate matter (PM), volatile organic compounds (VOC), hazardous air pollutants (HAPs) and greenhouse gases (GHGs).

Particulate matter emissions are controlled using fabric filters and multiclone collectors. The boiler is equipped with selective non-catalytic reduction (SNCR) technology to control nitrogen oxide emissions and a sodium bicarbonate injection system to control hydrogen chloride emissions.

This permit is issued in accordance with Title 49, Chapter 3 of the Arizona Revised Statues. All definitions, terms, and conditions used in this permit conform to those in the Arizona Administrative Code (A.A.C) R18-2-101 et. Seq., except as otherwise defined in this permit.

REVISION DESCRIPTION

This Class I, Title V significant permit revision for Novo BioPower, LLC (Novo) incorporates the following changes to the operating permit: (1) Changes to the averaging time for emissions of hydrogen chloride (HCl) from a 3-hour average to 365-day rolling total; (2) A temporary increase in the facility wide

annual emissions of nitrogen oxide (NO_X) limit from 240 tons per year (tpy) to 246 tpy; (3) Removal of pressure drop reading as a Compliance Assurance Monitoring (CAM) indicator; (4) Addition of two fire pump engines; (5) Use of stack flow monitor data to determine the boiler heat input for HCl emission calculations; (6) Revisions to the methodology for establishing the F-Factor using ultimate analysis test data and stack flow monitor data to determine the boiler heat input; (7) Changes to data substitution methodology for missing data from HCl Continuous Emission Monitoring System (CEMS); (8) Changes to quality assurance (QA)/ quality control (QC) procedures for the HCl CEMS to include an updated Performance Specification (PS) 18 and Procedure 6; (9) Addition of the requirement to perform EPA Reference Method 26A as one of the two Reference methods required for the annual Relative Accuracy Test Audit (RATA) for the HCl CEMS; (10) Addition of the requirement to perform EPA Reference Method 7E as the Reference Method required for the annual RATA for the NO_X CEMS; (11) Minor editorial changes throughout the permit.

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ATTACHMENT "A": GENERAL PROVISIONS

Air Quality Control Permit No. 53023 (As Amended by No. 59767)
For
Novo BioPower, LLC – Novo BioPower, LLC

I. PERMIT EXPIRATION AND RENEWAL

[ARS § 49-426.F, A.A.C. R18-2-304.C.2, and -306.A.1]

A. This permit is valid for a period of five years from the date of issuance.

B. The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months, prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS

[A.A.C. R18-2-306.A.8.a and b]

A. The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona air quality statutes and air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.

B. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE

[A.A.C. R18-2-306.A.8.c, -321.A.1, and -321.A.2]

A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

B. The permit shall be reopened and revised under any of the following circumstances:

1. Additional applicable requirements under the Clean Air Act become applicable to the Class I source. Such a reopening shall only occur if there are three or more years remaining in the permit term. The reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless an application for renewal has been submitted pursuant to A.A.C. R18-2-322.B. Any permit revision required pursuant to this subparagraph shall comply with the provisions in A.A.C. R18-2-322 for permit renewal and shall reset the five-year permit term.

2. Additional requirements, including excess emissions requirements, become

applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Class I permit.

3. The Director or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

4. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.

C. Proceedings to reopen and reissue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall, except for reopenings under Condition III.B.1 above, affect only those parts of the permit for which cause to reopen exists. Such reopenings shall be made as expeditiously as practicable. Permit reopenings for reasons other than those stated in Condition III.B.1 above shall not result in a resetting of the five-year permit term.

IV. POSTING OF PERMIT

[A.A.C. R18-2-315]

A. The Permittee shall post this permit or a certificate of permit issuance where the facility is located in such a manner as to be clearly visible and accessible. All equipment covered by this permit shall be clearly marked with one of the following:

1. Current permit number; or

2. Serial number or other equipment ID number that is also listed in the permit to identify that piece of equipment.

B. A copy of the complete permit shall be kept on site.

V. FEE PAYMENT

[A.A.C. R18-2-306.A.9 and -326]

The Permittee shall pay fees to the Director pursuant to ARS § 49-426(E) and A.A.C. R18-2-326.

VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE

[A.A.C. R18-2-327.A and B]

A. The Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31st or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year.

B. The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VII. COMPLIANCE CERTIFICATION

[A.A.C. R18-2-309.2.a, -309.2.c-d, and -309.5.d]

A. The Permittee shall submit a compliance certification to the Director semiannually, which describes the compliance status of the source with respect to each permit condition. The first certification shall be submitted no later than May 15th, and shall report the compliance status of the source during the period between October 1st of the previous year and March 31st of the current year. The second certification shall be submitted no later than November 15th, and shall report the compliance status of the source during the period between April 1st and September 30th of the current year.

The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;

2. Identification of the methods or other means used by the Permittee for determining the compliance status with each term and condition during the certification period,

3. The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the methods or means designated in Condition VII.A.2 above. The certifications shall identify each deviation and take it into account for consideration in the compliance certification;

4. For emission units subject to 40 CFR Part 64, the certification shall also identify as possible exceptions to compliance any period during which compliance is required and in which an excursion or exceedance defined under 40 CFR Part 64 occurred;

5. All instances of deviations from permit requirements reported pursuant to Condition XII.B of this Attachment; and

6. Other facts the Director may require to determine the compliance status of the source.

B. A copy of all compliance certifications shall also be submitted to the EPA Administrator.

C. If any outstanding compliance schedule exists, a progress report shall be submitted with the semi-annual compliance certifications required in Condition VII.A above.

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

[A.A.C. R18-2-304.H]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification shall

state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IX. INSPECTION AND ENTRY

[A.A.C. R18-2-309.4]

Upon presentation of proper credentials, the Permittee shall allow the Director or the authorized representative of the Director to:

A. Enter upon the Permittee's premises where a source is located, emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;

B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;

C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;

D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and

E. Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

[A.A.C. R18-2-304.C]

If this source becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

XI. ACCIDENTAL RELEASE PROGRAM

[40 CFR Part 68]

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the time line specified in 40 CFR Part 68.

XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

A. Excess Emissions Reporting

[A.A.C. R18-2-310.01.A and -310.01.B]

1. Excess emissions shall be reported as follows:

a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:

(1) Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from Condition XII.A.1.b below.

(2) Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XII.A.1.a(1) above.

b. The report shall contain the following information:

(1) Identity of each stack or other emission point where the excess emissions occurred;

(2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;

(3) Date, time and duration, or expected duration, of the excess emissions;

(4) Identity of the equipment from which the excess emissions emanated;

(5) Nature and cause of such emissions;

(6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions; and

(7) Steps taken to limit the excess emissions. If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.

2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition XII.A.1 above.

[A.A.C. R18-2-310.01.C]

B. Permit Deviations Reporting

[A.A.C. R18-2-306.A.5.b]

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to an emergency or within two working days of the time when the owner or operator first learned of the occurrence of a deviation from a permit requirement.

C. Emergency Provision

[A.A.C. R18-2-306.E]

1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, that require immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if Condition XII.C.3 is met.

3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

    a. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;

    b. The permitted facility was being properly operated at the time;

    c. During the period of the emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and

    d. The Permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

D. Compliance Schedule

[ARS § 49-426.I.5]

For any excess emission or permit deviation that cannot be corrected with 72 hours, the Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated.

E. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown

[A.A.C. R18-2-310]

1. Applicability

   This rule establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

   a. Promulgated pursuant to Sections 111 or 112 of the Act;

   b. Promulgated pursuant to Titles IV or VI of the Clean Air Act;

   c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. EPA;

   d. Contained in A.A.C. R18-2-715.F; or

   e. Included in a permit to meet the requirements of A.A.C. R18-2-406.A.5.

2. Affirmative Defense for Malfunctions

   Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. When emissions in excess of an applicable emission limitation are due to a malfunction, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

   a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the Permittee;

   b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

   c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift

labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the Permittee satisfactorily demonstrated that the measures were impracticable;

d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

g. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

h. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;

i. All emissions monitoring systems were kept in operation if at all practicable; and

j. The Permittee's actions in response to the excess emissions were documented by contemporaneous records

3. Affirmative Defense for Startup and Shutdown

a. Except as provided in Condition XII.E.3.b below, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. When emissions in excess of an applicable emission limitation are due to startup and shutdown, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

(1) The excess emissions could not have been prevented through careful and prudent planning and design;

(2) If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;

(3) The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

(4) The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

(5) All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

(6) During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

(7) All emissions monitoring systems were kept in operation if at all practicable; and

(8) Contemporaneous records documented the Permittee's actions in response to the excess emissions.

b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to Condition XII.E.2 above.

4. Affirmative Defense for Malfunctions during Scheduled Maintenance

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XII.E.2 above.

5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under Condition XII.E.2 or XII.E.3 above, the Permittee shall demonstrate, through submission of the data and information required by Condition XII.E and A.A.C. R18-2-310.01, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

XIII. RECORD KEEPING REQUIREMENTS

[A.A.C. R18-2-306.A.4]

A. The Permittee shall keep records of all required monitoring information including, but not limited to, the following:

1. The date, place as defined in the permit, and time of sampling or measurements;

2. The date(s) analyses were performed;

3. The name of the company or entity that performed the analyses;

4. A description of the analytical techniques or methods used;

5. The results of such analyses; and

6. The operating conditions as existing at the time of sampling or measurement.

B. The Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

C. All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

XIV. REPORTING REQUIREMENTS

[A.A.C. R18-2-306.A.5.a]

The Permittee shall submit the following reports:

A. Compliance certifications in accordance with Section VII of Attachment "A".

B. Excess emission; permit deviation, and emergency reports in accordance with Section XII of Attachment "A".

C. Other reports required by any condition of Attachment "B".

XV. DUTY TO PROVIDE INFORMATION

[A.A.C. R18-2-304.G and -306.A.8.e]

A. The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.

B. If the Permittee has failed to submit any relevant facts or has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

XVI. PERMIT AMENDMENT OR REVISION

[A.A.C. R18-2-318, -319, and -320]

The Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under Section XVII, as follows:

A. Administrative Permit Amendment (A.A.C. R18-2-318);

B. Minor Permit Revision (A.A.C. R18-2-319); and

C. Significant Permit Revision (A.A.C. R18-2-320)

The applicability and requirements for such action are defined in the above referenced regulations.

XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION

[A.A.C. R18-2-306.A.4 and -317]

A. The Permittee may make changes at the permitted source without a permit revision if all of the following apply:

1. The changes are not modifications under any provision of Title I of the Act or under ARS § 49-401.01(19);

2. The changes do not exceed the emissions allowable under the permit whether expressed therein as a rate of emissions or in terms of total emissions;

3. The changes do not violate any applicable requirements or trigger any additional applicable requirements;

4. The changes satisfy all requirements for a minor permit revision under A.A.C. R18-2-319.A; and

5. The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements.

B. The substitution of an item of process or pollution control equipment for an identical or substantially similar item of process or pollution control equipment shall qualify as a change that does not require a permit revision, if it meets all of the requirements of Conditions XVII.A and XVII.C of this Attachment.

C. For each change under Conditions XVII.A and XVII.B above, a written notice by certified mail or hand delivery shall be received by the Director and the Administrator a minimum of 7 working days in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided less than 7 working days in advance of the change, but must be provided as far in advance of the change~~,~~ as possible or, if advance notification is not practicable, as soon after the change as possible.

D. Each notification shall include:

1. When the proposed change will occur;

2. A description of the change;

3. Any change in emissions of regulated air pollutants; and

4. Any permit term or condition that is no longer applicable as a result of the change.

E. The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section, other than implementation of an alternate to Conditions XVII.A and XVII.B above.

F. Except as otherwise provided for in the permit, making a change from one alternative operating scenario to another as provided under A.A.C. R18-2-306.A.11 shall not require any prior notice under this Section.

G. Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the same source under this Section over the term of the permit, do not satisfy Condition XVII.A above.

XVIII. TESTING REQUIREMENTS

[A.A.C. R18-2-312]

A. The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.

B. Operational Conditions During Testing

Tests shall be conducted during operation at the maximum possible capacity of each unit under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during periods of start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative operational conditions unless otherwise specified in the applicable standard.

C. Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.

D. Test Plan

At least 14 calendar days prior to performing a test, the Permittee shall submit a test plan to the Director in accordance with A.A.C. R18-2-312.B and the Arizona Testing Manual. This test plan must include the following:

1. Test duration;

2. Test location(s);

3. Test method(s); and

4. Source operation and other parameters that may affect test results.

E. Stack Sampling Facilities

The Permittee shall provide, or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;

2. Safe sampling platform(s);

3. Safe access to sampling platform(s); and

4. Utilities for sampling and testing equipment.

F. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

G. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XIX. PROPERTY RIGHTS

[A.A.C. R18-2-306.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XX. SEVERABILITY CLAUSE

[A.A.C. R18-2-306.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

XXI. PERMIT SHIELD

[A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements identified in the portions of this permit subtitled "Permit Shield". The permit shield shall not apply to minor revisions pursuant to Condition XVI.B of this Attachment and any facility changes without a permit revision pursuant to Section XVII of this Attachment.

XXII. PROTECTION OF STRATOSPHERIC OZONE

[40 CFR Part 82]

If this source becomes subject to the provisions of 40 CFR Part 82, then the Permittee shall comply with these provisions accordingly.

XXIII. APPLICABILITY OF NSPS/NESHAP GENERAL PROVISIONS

[40 CFR Part 60, Part 63]

For all equipment subject to a New Source Performance Standard and National Emissions Standard for Hazardous Air Pollutant, the Permittee shall comply with all applicable requirements contained in Subpart A of Title 40, Chapter 60 and Chapter 63 of the Code of Federal Regulations.

ATTACHMENT "B": SPECIFIC CONDITIONS

Air Quality Control Permit No. 53023 (As Amended by No. 59767)
For
Novo BioPower, LLC – Novo BioPower, LLC

I. FACILITY WIDE REQUIREMENTS

A. General Requirements

1. The Permittee shall have on site or on call a person that is certified in EPA Reference Method 9. [A.A.C. R18-2-306.A.3.c]

2. *The Permittee shall operate* and maintain *all equipment according to manufacturer's specifications. If manufacturer's specifications are not available, the Permittee shall prepare an Operation and Maintenance Plan (O&M), which provides adequate information to properly operate and maintain the equipment. The Permittee shall operate the equipment in accordance with the O&M plan.*
[A.A.C. R18-2-306.A.2, -306.01, and 331.A.3.a]
[Material permit conditions are identified by underlines and italics]

3. The Permittee shall maintain onsite a copy of the manufacturer's specifications or O&M plan for all equipment onsite. [A.A.C. R18-2-306.A.2]

4. The Permittee shall maintain and provide upon request by ADEQ staff, logs of all emission related maintenance activities performed on the emissions units.
[A.A.C. R18-2-306.A.3.c]

B. Operational Limitations and Standards

1. Fuel Limitations

   a. Heat Input – All Fuels

   The Permittee shall not exceed a maximum heat input of 2,971,777 MMBtu (High Heating Value (HHV) - dry basis), based on all fuels, for any consecutive twelve (12) month period.
   [A.A.C. R18-2-306.01 and 331.A.3.a]
   [Material permit conditions are identified by underlines and italics]

   b. Wood Waste

   Except as provided in Conditions I.B.1.c and Condition I.B.1.d, the Permittee shall burn only un-processed wood waste in the boiler identified in Attachment "C". Un-processed wood means wood that has not been treated with any chemicals or additives. [A.A.C. R18-306.01]

c. Wood Fiber [A.A.C. R18-2-306.01 and 331.A.3.a]
[Material permit conditions are identified by underlines and italics]

(1) *The Permittee shall not exceed a maximum heat input of 1,033,000 MMBtu (HHV-dry basis), based on wood fiber firing, for any consecutive twelve (12) month period.*

(2) Except as provided in Conditions I.B.1.b and Condition I.B.1.d, the Permittee shall burn only paper fiber waste from the previously existing recycling paper mill plant in the boiler identified in Attachment "C".

d. Supplemental Fuel

(3) The Permittee shall burn only pipeline quality natural gas as a supplemental fuel. The supplemental fuel may be used for startup or to keep the operating temperature at appropriate levels.
[A.A.C. R18-2-306.A.2]

(4) *The Permittee shall not cause, allow, or permit the use of natural gas such that the natural gas usage exceeds a 10 percent annual capacity factor.*
[A.A.C. R18-2-306.01 and A.A.C. R18-2-331.A.3.a]
[Material permit conditions are identified by underlines and italics]

C. Recordkeeping and Reporting Requirements

1. The Permittee shall maintain daily records of total fuel (wood waste, fiber waste, and natural gas) combusted per day in units of standard cubic feet and tons.
[A.A.C. R18-2-306.A.4]

2. In determining the F-Factor, the Permittee shall use one of the following methods:
[A.A.C. R18-2-306.A.3.c]

a. Use the pre-defined constant of 9240 dscf/MMBtu.

b. Develop a fuel specific F-Factor by performing the following:

(1) Until November 1, 2014, the Permittee shall, on a monthly basis, perform an ultimate analysis on all sources of fuel following the procedures defined in ASTM E870-82 or equivalent, and record its results.

(2) After November 1, 2014, the Permittee shall, on a quarterly basis, perform an ultimate analysis on all sources of fuel following the procedures defined in ASTM E870-82 or equivalent, and record its results.

(3) The Permittee shall calculate and record an F-Factor utilizing the data collected for the monthly ultimate analysis using the

following equation:

$$F_d = \frac{K(K_{hd}\%H + K_c\%C + K_s\%S + K_n\%N - K_o\%O)}{GCV}$$

Where:

F_d = Volumes of Combustion components per unit of heat content (scf/MMBtu)
K = Conversion Factor of 10^6 (btu/MMBtu)
K_{hd} = 3.64 ((scf/lb)/%)
%H = Concentration of Hydrogen from an ultimate analysis of fuel, weight percent
K_c = 1.53 ((scf/lb)/%)
%C = Concentration of Carbon from an ultimate analysis of fuel, weight percent
K_s = 0.57 ((scf/lb)/%)
%S = Concentration of Sulfur from an ultimate analysis of fuel, weight percent
K_n = 0.14 ((scf/lb)/%)
%N = Concentration of Nitrogen from an ultimate analysis of fuel, weight percent
K_o = 0.46 ((scf/lb)/%)
%O = Concentration of Oxygen from an ultimate analysis of fuel, weight percent
GCV = Gross calorific value of the fuel consistent with the ultimate analysis (Btu/lb)

(4) Until November 1, 2014, the Permittee may use all historical data in the development of an average F-Factor.

(5) After November 1, 2014, the Permittee shall calculate and record a 12-month rolling average of the F-Factors developed using the method described in Condition I.C.3.b(3).

3. The Permittee shall calculate and record a daily MMBtu throughput based on the stack flow monitor and the F-Factor determined by the Permittee in Condition I.C.4.

[A.A.C. R18-2-306.A.4]

4. At the end of each month, the Permittee shall calculate and record a 12-month rolling total of the total heat input of the boiler in MMBtu for the previous twelve months. The 12-month rolling total shall be based on the daily MMBtu throughput calculated in Condition I.C.3.

[A.A.C. R18-2-306.A.3.c]

5. The Permittee shall maintain a vendor-provided copy of the part of the Federal Energy Regulatory Commission (FERC)-approved tariff agreement that contains the lower heating value of the pipeline quality natural gas.

[A.A.C. R18-2-306.A.3.c]

6. At the time the compliance certifications required by Section VII of Attachment "A" is submitted, the Permittee shall submit reports of all monitoring, recordkeeping, and testing activities required by Attachment "B" performed during the compliance term.

[40 CFR 60.49b(i), (j), (w), and A.A.C. R18-2-306.A.5]

7. The Permittee shall submit excess emission reports for any excess emissions which occurred during the reporting period.

[40 CFR 60.49b(h)]

8. The Permittee shall submit to the Director the performance evaluations of the CEMS using the applicable performance specifications in appendix B in 40 CFR 60.

[40 CFR 60.49b(b)]

9. The Permittee shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for natural gas, wood, and wood waste for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

[40 CFR 60.49b(d)]

10. The annual capacity factor is determined by dividing the actual heat input to the boiler during the calendar year from the combustion of natural gas by the potential heat input to the boiler if the boiler had been operated for 8,760 hours at the maximum design heat input capacity.

[40 CFR 60.43b(e)]

D. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with, 40 CFR 60.43b(e), 60.49b(b), 60.49b(d), 60.49b(h), 60.49b(i), 60.49b(j), 60.49b(o), 60.49b(v), and 60.49b(w). [A.A.C. R18-2-325]

II. BOILER REQUIREMENTS

A. Stack Requirements

The Permittee shall maintain the boiler stack such that the stack height shall be at least seventy-five (75) feet above the ground.

[A.A.C. R18-2-306.A.2]

B. Particulate Matter and Opacity

1. Emission Limitations/Standards

a. Particulate Matter

The Permittee shall not cause to be discharged into the atmosphere from the boiler stack any gases that contain particulate matter emissions in

excess of 0.085 lb/MMBtu heat input. [40 CFR 60.43b(h)(1)]

b. Opacity

The opacity of any plume or effluent shall not be greater than 20% on a 6-minute average, except for one 6-minute period per hour of not more than 27% opacity.

[40 CFR 60.43b(f) and A.A.C R18-2-331.A.3.f]
[Material Permit Conditions are indicated with underline and italics]

c. The PM and opacity standards in Conditions II.B.1.a and II.B.1.b apply at all times, except during periods of startup, shutdown or malfunction.
[40 CFR 60.43b(g)]

2. Air Pollution Control Equipment

a. *The Permittee shall* maintain, *and operate a multiclone collector to control particulate matter emissions from the boiler exhaust*.

b. *The Permittee shall* maintain, *and operate a fabric filter, in series with the multicyclone collector, to control particulate matter emissions from the boiler exhaust*.

[A.A.C. R18-2-306.01 and A.A.C. R18-2-331.e]
[Material Permit Conditions are indicated with underline and italics]

3. Monitoring, Recordkeeping, and Reporting Requirements
[A.A.C. R18-2-306.A.3.c]

a. *The Permittee shall* maintain, and operate *a continuous opacity monitoring system (COMS) to measure the opacity of emissions discharged to the atmosphere from the boiler stack* and shall record the output of the system.
[40 CFR 60.48b(a), 60.49b(f) and 331.A.3.e]
[Material Permit Conditions are indicated with underline and italics]

b. The continuous opacity monitoring system shall meet the following requirements:

(1) The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous emission monitoring systems. [40 CFR 60.48b(e)]

(2) The Span value of the opacity COMS shall be between 60 and 80 percent. The COMS shall calibrate daily at zero and at a range between 30 to 40 percent. The COMS shall meet the data quality assurance criteria of 40 CFR Part 60 Appendix B Performance Specification 1. [40 CFR 60.48b(e)(1)]

c. The Permittee shall maintain logs of all maintenance activities performed on the multicyclone collector and the baghouse. These logs shall be maintained on-site and shall be readily available to ADEQ representatives upon request.

d. The Permittee may submit electronic semi-annual reports for emissions of opacity in lieu of submitting the written reports. The format of each semi-annual electronic report shall be coordinated with the Director. The electronic report(s) shall be submitted no later than 30 days after the semi-annual calendar and shall be accompanied by a certification statement from the Permittee, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the Permittee shall coordinate with the Director to obtain an agreement to submit reports in this alternative format.

[40 CFR 60.49b(v)]

e. Compliance Assurance Monitoring for Particulate Matter

(1) The Permittee shall maintain and operate the COMS in accordance with the manufactures specifications.

(2) Performance Indicators

[40 CFR 64.6(c)(1)(i)]

(a) The opacity of the fabric filter exhaust shall be an indicator of particulate matter emissions.

(b) Inspections of the baghouse shall be performed annually

(3) Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the boiler is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The Permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 CFR 64.6(c)(3), 64.9(c)]

(4) Excursion Determination

Opacity readings above 7.5 percent shall be considered an excursion.

[40 CFR 64.6(c)(2) and A.A.C. R18-2-306.A.3.b]

(5) Response to excursions

[40 CFR 64.6(c)(3), 64.7(d)]

(a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the boiler (including the control device and associated capture system) to their normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown, or malfunction, and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operations to within the indicator range, designated condition, or below applicable emission limitation or standard, as applicable.

(b) Determination of whether Permittee has used acceptable procedures in response to an excursion or exceedance will be based in information available, which may include but is not limited to, monitoring results, review of operation, and maintenance procedures and records, and inspection of the control device, associated capture system, and process.

(6) If the Permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the Department, and if necessary, submit a proposed modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conduction monitoring and collecting data, or the monitoring of additional parameters.

[40 CFR 64.6(c) (3), 64.9(e)]

(7) Excursions shall be reported as required by Condition VII.B.4 of Attachment "A" of this permit. The report shall include, at a minimum, the following:

[A.A.C. R18-2-309(2)(c)(iii), 64.9(a)(2)]

(a) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursion or exceedances, as applicable, and the corrective actions taken; and

(b) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable).

f. Periodic Monitoring

The Permittee shall conduct inspections and perform maintenance on the baghouse and multiclone in accordance with the manufacturer's recommendations, and shall log all such activities. A written copy of the manufacturer's recommended inspection and maintenance schedule shall be kept onsite and available for Department review upon request.

[A.A.C. R18-2-306.A.3.c]

4. Performance Testing Requirement

a. The Permittee shall conduct annual performance tests for particulate matter and opacity from the boiler stack. The tests shall be conducted in accordance with 40 CFR 60.46b(d).

[40 CFR 60.46b(b) and (d) and A.A.C. R18-2-312]

All performance testing for particulate matter shall be conducted in accordance with EPA Reference Method 5 and either EPA Reference Method 202 or EPA Reference Method 201A [A.A.C. R18-2-306.A.3.c]

5. Permit Shield

[A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 60.43b(f), 60.43b(g), 60.43b(h)(1), 60.48b(a), 60.48b(e), 60.48b(e)(1), 60.49b(f).

C. Nitrogen Oxide (NO_x)

1. Emission Limitation/Standard

a. *Until November 1, 2014, the Permittee shall not cause to be discharged into the atmosphere from the boiler stack, including emissions generated during start-ups and shutdowns, NO_x emissions in excess of 246 tons per year on a 365-day rolling total.*

[A.A.C. R18-2-306.A.2, -306.01, and -331.A.3.a]
[Material Permit Conditions are indicated with underline and italics]

b. *Starting on November 1, 2014 the Permittee shall not cause to be discharged into the atmosphere from the boiler stack, including emissions generated during start-ups and shutdowns, NO_X emissions in excess of 240*

tons per year on a 365-day rolling total.

[A.A.C. R18-2-306.A.2, -306.01, and -331.A.3.a]
[Material Permit Conditions are indicated with underline and italics]

2. Air Pollution Control

At all times, the Permittee shall maintain, *and operate a selective non-catalytic reduction system in a manner consistent with good air pollution control practice to control nitrogen oxide emissions from the boiler exhaust*.

[A.A.C. R18-2-306.A.2, -306.01.A, and -331.A.3.d and e]
[Material Permit Conditions are indicated with underline and italics]

3. Monitoring, Recordkeeping, and Reporting Requirements

a. T*he Permittee shall calibrate*, maintain, and operate a *continuous emissions monitoring system (CEMS)*, and record the output of the system in parts per million by volume (ppmv) and pounds per hour, *for measuring emissions of nitrogen oxides from the boiler stack.*

[40 CFR 60.48b(b)(1) and A.A.C.R18-2-331.A.3.c]
[Material permit condition is underlined and italicized]

b. Continuous Emissions Monitoring Systems Requirements

[A.A.C.R18-2-306.01, A.A.C.R18-2-306.A.3.c and A.A.C.R18-2-312.H.3]

(1) The Permittee shall follow the monitoring procedures and performance specifications of 40 CFR 60, Appendix B and Appendix F.

(2) The Permittee shall maintain 95 percent data recovery on all the data obtained from the CEMS. Compliance with this data recovery requirement shall be determined based on total operating time of the facility during a 365 day period.

(3) The CEMs shall be designed so that one cycle of operation is complete for each successive 15-minute period.

(4) All data gaps shall be filled with the average hourly NO_x concentration and volume recorded by the CEMs for the hour immediately before and the hour immediately after the missing data period.

(5) Instrument span shall be such that the expected output is 50 to 70 percent of span.

(6) *The Permittee shall calibrate,* maintain, and operate *a flow measurement sensor to measure the stack gas volumetric flow rate*. The flow measurement sensor shall be used in conjunction with the NO_x analyzer to calculate emissions in units of pounds per hour (lb/hr) and shall meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 6 and Appendix F,

Procedure 1.

A.A.C. R18-2-306.A.3.d and 331.A.3.c]
[Material permit conditions are indicated by underline and italics]

(a) The Permittee shall perform EPA Reference Method 7E as the required Reference Method for the annual Relative Accuracy Test Audit (RATA) required by Performance Specification 6 and Procedure 1.

[A.A.C.R18-2-306.A.3.c]

c. The Permittee shall maintain a 365-day rolling total of NO_x emissions from the boiler to demonstrate compliance with emission limitation set in Condition II.C.1.

[A.A.C.R18-2-306.A.3.c]

d. The Permittee shall submit a semi-annual report along with the semi-annual compliance certification to include the following information:

(1) Rolling total of NO_x emissions on a 365 day basis in that semi-annual period; and

(2) A monitoring systems performance report or a summary report form to include:

(a) All the continuous monitoring system downtime in the corresponding reporting period due to:

(i) Monitor equipment malfunction;
(ii) Non-Monitor equipment malfunction;
(iii) Quality assurance calibration;
(iv) Other known factors;
(v) Unknown causes;
(vi) Total CEMS downtime;
(vii) $\frac{\text{(Total CEMS downtime)}}{\text{(Total source operating time)}} * 100$

(b) Exceedances, defined as any emissions in excess of the limits set in Condition II.C.1 of this Attachment. The Permittee shall follow the procedures in Section XII of Attachment "A" in reporting all exceedances.

[A.A.C.R18-2-306.A.5]

e. The Permittee may submit electronic semi-annual reports for emissions of nitrogen oxides (NO_X) in lieu of submitting the written reports. The format of each semi-annual electronic report shall be coordinated with the Director. The electronic report(s) shall be submitted no later than 30 days after the semi-annual calendar and shall be accompanied by a certification statement from the Permittee, indicating whether compliance with the applicable emission standards and minimum data requirements of this

subpart was achieved during the reporting period. Before submitting reports in the electronic format, the Permittee shall coordinate with the Director to obtain an agreement to submit reports in this alternative format.

[40 CFR 60.49b(v)]

4. Permit Shield

[A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 60.48b(b)(1) and 40 CFR 60.49b(v)].

D. Carbon Monoxide (CO)

1. Emission Limitation/Standard

The Permittee shall not cause to be discharged into the atmosphere from the boiler stack, including emissions generated during start-ups and shutdowns, CO emissions in excess of 225 tons per year on a 365-day rolling total.

[A.A.C. R18-2-306.A.2, -306.01, and -331.A.3.a]
[Material Permit Conditions are indicated with underline and italics]

2. Monitoring, Recordkeeping, and Reporting Requirements

a. *The Permittee shall calibrate*, maintain, and operate a *continuous monitoring system (CEMS), and record the output of the system in ppmv and pounds per hour, for measuring emissions of CO from the boiler stack.*

[A.A.C. R18-2-306.01 and -331.A.3.c]
[Material permit condition is underlined and italicized]

b. Continuous Emissions Monitoring Systems Requirements

[A.A.C.R18-2-306.01, A.A.C.R18-2-306.A.3.c and A.A.C.R18-2-312.H.3]

(1) The Permittee shall follow the monitoring procedures and performance specifications of 40 CFR 60, Appendix B and Appendix F.

(2) The Permittee shall maintain 95 percent data recovery on all the data obtained from the CEMS. Compliance with this data recovery requirement shall be determined based on total operating time of the facility during a 365-day period.

(3) The CEMS shall be designed so that one cycle of operation is complete for each successive 15-minute period.

(4) All data gaps shall be filled with the average hourly CO concentration and volume recorded by the CEMs for the hour immediately before and the hour immediately after the missing data period.

(5) The CO analyzer shall be a dual range analyzer; 0 to 200 ppm low

range and 0 to 1000 ppm high range. The CO analyzer shall meet the data quality assurance criteria of 40 CFR Part 60, Appendix B, Performance Specification 4 and Appendix F.

(6) *The Permittee shall calibrate*, maintain, and operate *a flow measurement sensor to measure the stack gas volumetric flow rate*. The flow measurement sensor shall be used in conjunction with the NO_x analyzer to calculate emissions in units of pounds per hour (lb/hr) and shall meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 6 and Appendix F, Procedure 1.

[A.A.C. R18-2-306.A.3.d and 331.A.3.c]
[Material permit conditions are indicated by underline and italics]

c. The Permittee shall maintain a 365-day rolling total of CO emissions from the boiler to demonstrate compliance with emission limitation set in Condition II.D.1 of this Attachment. [A.A.C.R18-2-306.01.A]

d. The Permittee shall submit a semi-annual report based on the same reporting period as compliance certification to include the following information:

(1) Rolling total of CO emissions on a 365 day basis in that semi-annual period; and

(a) A monitoring systems performance report or a summary report form to include:

(b) All the continuous monitoring system downtime in the corresponding reporting period due to:

(i) Monitor equipment malfunction;
(ii) Non-Monitor equipment malfunction;
(iii) Quality assurance calibration;
(iv) Other known factors;
(v) Unknown causes;
(vi) Total CEMS downtime;
(vii) $\frac{\text{(Total CEMS downtime)}}{\text{(Total source operating time)}} * 100$

(c) Exceedances, defined as any emissions in excess of the limits set in Condition II.D.1 of this Attachment. The Permittee shall follow the procedures in Section XII of Attachment "A" in reporting all exceedances.

[A.A.C.R18-2-306.A.5]

E. Sulfur Dioxide (SO_2)

1. Emission Limitations/Standards [A.A.C. R18-2-306.A.2, -306.01, and -331.A.3.a]

a. *The Permittee shall not cause to be discharged into the atmosphere from the boiler stack, including emissions generated during start-ups and shutdowns, SO_2 emissions in excess of 225 tons per year on a 365 day rolling total.*

b. While combusting natural gas, the Permittee must limit the sulfur dioxide emission rate from the boiler to 0.32 lb/MMBtu heat input or less.
[40 CFR 60.42b(k)(1)]

2. Monitoring, Recordkeeping, and Reporting Requirements

a. *The Permittee shall calibrate*, maintain, and operate *a continuous emissions monitoring system (CEMS), and record the output of the system in ppmv and pounds per hour, for measuring emissions of SO_2 from the boiler stack.*
[A.A.C. R18-2-306.01 and -331.A.3.c]
[Material permit condition is underlined and italicized]

b. Continuous Emissions Monitoring Systems Requirements
[A.A.C.R18-2-306.01, -306.A.3.c and -312.H.3]

(1) The Permittee shall follow the monitoring procedures and performance specifications of 40 CFR 60, Appendix B and Appendix F.

(2) The Permittee shall maintain 95 percent data recovery on all the data obtained from the CEMS. Compliance with this data recovery requirement shall be determined based on total operating time of the facility during a 365-day period.

(3) The CEMS shall be designed so that one cycle of operation is complete for each successive 15-minute period.

(4) All data gaps shall be filled with the average hourly SO_2 concentration and volume recorded by the CEMS for the hour immediately before and the hour immediately after the missing data period.

(5) The SO_2 analyzer span range shall be 0 to 50 ppm. The SO_2 analyzer shall meet the data quality assurance criteria of 40 CFR Part 60, Appendix B, Performance Specification 2 and Appendix F.

(6) *The Permittee shall calibrate*, maintain, and operate *a flow measurement sensor to measure the stack gas volumetric flow rate*. The flow measurement sensor shall be used in conjunction with the SO_2 analyzer to calculate emissions in units of pounds per hour

(lb/hr) and shall meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 6 and Appendix F, Procedure 1.

[A.A.C. R18-2-306.A.3.d and 331.A.3.c]
[Material permit conditions are indicated by underline and italics]

c. The Permittee shall maintain a 365-day rolling total of SO_2 emissions from the boiler to demonstrate compliance with emission limitation set in Condition II.E.1 of this Attachment.

[A.A.C.R18-2-306.A.3.c]

d. The Permittee shall submit a semi-annual report based on the same semi-annual reporting period as the compliance certification to include the following information:

(1) Rolling total of SO_2 emissions on a 365 day basis in that semi-annual period; and

(a) A monitoring systems performance report or a summary report form to include:

(b) All the continuous monitoring system downtime in the corresponding reporting period due to:

(i) Monitor equipment malfunction;
(ii) Non-Monitor equipment malfunction;
(iii) Quality assurance calibration;
(iv) Other known factors;
(v) Unknown causes;
(vi) Total CEMS downtime;
(vii) $\frac{\text{(Total CEMS downtime)}}{\text{(Total source operating time)}} * 100$

(c) Exceedances, defined as any emissions in excess of the limits set in Condition II.E.1 of this Attachment. The Permittee shall follow the procedures in Section XII of Attachment "A" in reporting all exceedances.

[A.A.C.R18-2-306.A.5]

e. The Permittee shall demonstrate compliance with Condition II.E.1.b by maintaining records of fuel supplier certifications of sulfur content of the natural gas being combusted.

[40 CFR 60.45b(k) and 40 CFR 60.47b(g)]

f. The Permittee may submit electronic semi-annual reports for emissions of sulfur dioxide (SO_2) in lieu of submitting the written reports. The format of each semi-annual electronic report shall be coordinated with the Director. The electronic report(s) shall be submitted no later than 30 days after the semi-annual calendar and shall be accompanied by a certification statement

from the Permittee, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the Permittee shall coordinate with the Director to obtain an agreement to submit reports in this alternative format.

[40 CFR 60.49b(v)]

3. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 60.42b(k)(1), 60.45b(k), and 60.47b(g).

F. Hazardous Air Pollutants

1. NESHAP Requirements

a. Applicability

The requirements of 40 CFR Part 63, Subpart JJJJJJ are applicable to the biomass fired boiler which is classified as an existing large area source boiler. Compliance with Subpart JJJJJJ is effective beginning March 21, 2014.

[40 CFR 63.11194, 63.11196(a)]

b. Operating Requirements

The Permittee shall operate and maintain the boiler, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator or Director that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.11205(a)]

(1) Work-Practice Standard

[40 CFR 63.11201(b)]

(a) Initial Boiler Tune-up

The Permittee shall conduct a boiler tune-up of the boiler according to the procedures stated in Condition II.F.1.d no later than March 21, 2014 and according to the applicable provisions in 63.7(a)(2). [40 CFR 63.11210(c), 63.11214(b)]

(b) Subsequent Boiler Tune-ups

Subsequent tune-ups shall be conducted biennially and shall be conducted no more than 25 months after the

previous tune-up. [40 CFR 63.11223(a)]

(2) Energy Assessment

[40 CFR 63.11196(a)(3); 63.11214(c); 63.11210(j)(3)]

The Permittee shall conduct a one-time energy assessment performed by a qualified energy assessor no later than March 21, 2014. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table satisfies the energy assessment requirement. The energy assessment must include:

(a) A visual inspection of the boiler system,

(b) An evaluation of operating characteristics of the facility, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints,

(c) Inventory of major systems consuming energy from affected boiler(s),

(d) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,

(e) A list of major energy conservation measures,

(f) A list of the energy savings potential of the energy conservation measures identified,

(g) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

c. Tune-up Procedures

(1) In order to complete a tune up, the Permittee shall:

(a) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (The Permittee may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce energy for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.

(b) Inspects the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The

adjustment should be consistent with the manufacturer's specifications, if available.

(c) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (The Permittee may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce energy for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.

(d) Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available and with any nitrogen oxide requirements to which the unit is subject.

(e) Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable carbon monoxide analyzer.

(f) Maintain onsite and submit, if requested by the Director, a biennial report containing the information in the following conditions

(g) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.

(h) A description of any corrective actions taken as a part of the tune-up of the boiler.

(i) The type and amount of fuel used over the 12 months prior to the biennial tune-up of the boiler.

(j) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within thirty days of startup.

[40 CFR 63.11223(b)]

d. Reporting Requirements

[40 CFR 63.11225(a)]

(1) The Permittee must submit the following information to the Director and the Administrator.

(a) The Permittee must submit all of the notifications in 40 CFR 63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to the Permittee by the dates specified in those sections except as specified in Condtions II.F.1.d(2) and II.F.1.d(4) of this section.

(b) An Initial Notification must be submitted no later than January 20, 2014.

(c) The Permittee must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date of January 20, 2014.

(2) The Permittee must prepare, by March 1 of each year, and submit to the Director upon request, an annual compliance certification report for the previous calendar year containing the information specified in Condition II.F.1.d(2)(a) through Condition II.F.1.d(2)(c) of this section. The Permittee shall submit the report by March 15 if the Permittee had any instance described by Condition II.F.1.d(2)(c).

(a) Company name and address.

(b) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. The Permittee's notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) "This facility complies with the requirements in 40 CFR 63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler."

(ii) "No secondary materials that are solid waste were combusted in the boiler."

(iii) "This facility complies with the requirement in 40 CFR 63.11214(d) and 40 CFR 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

(c) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken. [40 CFR 63.11225(b)]

(3) The Permittee must maintain the records specified in Conditions II.F.1.d(3)(a) through (f) of this section.

(a) As required in 40 CFR 63.10(b)(2)(xiv), the Permittee must keep a copy of each notification and report that the Permittee submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that The Permittee submitted.

(b) The Permittee must keep records to document conformance with the work practices, emission reduction measures, and management practices required by 40 CFR 63.11214 and 40 CFR 63.11223 as specified in Conditions II.F.1.d.(3)(b)(i) through (vi).

(i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.

(ii) The Permittee must keep a copy of the energy assessment report.

(iii) The Permittee must also keep records of monthly fuel use by the boiler, including the type(s) of fuel and amount(s) used.

(iv) For each boiler that meets the definition of limited-use boiler, the Permittee must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and records of fuel use for the days the boiler is operating.

(c) The Permittee shall keep a copy of all calculations and supporting documentation that were done to demonstrate compliance with the mercury emission limits. Supporting documentation should include results of any fuel analyses. The Permittee can use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type.

(d) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.

(e) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in 40 CFR 63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

(f) The Permittee must keep the records of all inspection and monitoring data required by 40 CFR 63.11221 and 40 CFR 63.11222, and the information identified in Conditions II.F.1.d(3)(f)(i) through (vi) of this section for each required inspection or monitoring.

(i) The date, place, and time of the monitoring event.

(ii) Person conducting the monitoring.

(iii) Technique or method used.

(iv) Operating conditions during the activity.

(v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation.

(vi) Maintenance or corrective action taken (if applicable). [40 CFR 63.11225(c)]

(4) The Permittee's records must be in a form suitable and readily available for expeditious review. The Permittee must keep each record for 5 years following the date of each recorded action. The Permittee must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.11225(d)]

e. Permit Shield

[A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 40 CFR 63.11194, 63.11196(a), 63.11205(a), 63.11201(b), 63.11210(c), 63.11214(b), 63.11223(a), 63.11196(a)(3); 63.11214(c); 63.11210(j)(3), 40 CFR

63.11223(b), 40 CFR 63.11225(a), 40 CFR 63.11225(b), 40 CFR 63.11225(c), 40 CFR 63.11225(d).

2. Emission Limitations/Standards

a. *The Permittee shall not cause to be discharged into the atmosphere from the boiler stack, total hazardous air pollutants in excess of 22.5 tons per year on a 365-day rolling total.*

[A.A.C. R18-2-306.A.2, -306.01, and -331.A.3.a]
[Material Permit Conditions are indicated with underline and italics]

b. *The Permittee shall not cause to be discharged into the atmosphere from the boiler stack, any single hazardous air pollutant in excess of 9 tons per year on a 365-day rolling total.*

[A.A.C. R18-2-306.A.2, -306.01, and -331.A.3.a]
[Material Permit Conditions are indicated with underline and italics]

3. Air Pollution Control Requirements

At all times, the Permittee shall operate, and maintain *a bicarbonate injection system in accordance with manufacturer's specifications and good engineering practices to minimize the emissions of Hydrogen Chloride (HCl). If manufacturer's specifications are not available, the Permittee shall develop and comply with an Operations and Maintenance Plan (O&M) that provides adequate information to properly operate and maintain the bicarbonate injection system.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated with underline and italics]

4. Monitoring, Recordkeeping, and Reporting Requirement

a. *The Permittee shall calibrate*, maintain, and operate *a continuous emissions monitoring system (CEMS), for measuring emissions of HCl from the boiler stack.*

[A.A.C. R18-2-306.A.3.c, and -331.A.3.a]
[Material Permit Conditions are indicated with underline and italics]

b. For purposes of demonstrating compliance with any single HAP limit, the Permittee shall:

[A.A.C. R18-2-306.A.3.c]

(1) For HCl Emissions

(a) Utilize the data from the HCl CEMS in conjunction with the stack flow monitor and the F-Factor determined by the Permittee in Condition I.C.3.b, to calculate and record the HCl emissions in units of lbs/hr. At the end of each day, the Permittee shall calculate and record a daily rolling total of HCl emissions.

(b) Add the previous 364-days of HCl emission data, in lb/hr,

to determine the rolling 365-day HCl emission total, in tons per year.

(2) For All HAPs except HCl

Demonstrate emissions below the limit established in Condition II.F.2.b through the performance testing required by Condition II.F.5.

c. For purposes of demonstrating compliance with the total HAPs limit, the Permittee shall:

At the end of each day, add the sum of the emission rates determined by the most recent performance test for all HAPs except HCl with the 365-day rolling HCl emission total, in tons per year, determined through Condition II.F.4.b(1).

[A.A.C. R18-2-306.A.3.c]

d. Continuous Emissions Monitoring Systems Requirements

(1) The Permittee shall follow the draft version of the monitoring procedures and performance specifications titled Performance Specification 18 and Procedure 6 dated April 4, 2013, and no subsequent versions.

[A.A.C. R18-2-306.A.3.c]

(a) The Permittee shall perform either EPA Reference Method 26A or EPA Reference Method 302 the Reference Method for the annual Relative Accuracy Test Audit (RATA) required by Performance Specification 18 and Procedure 6.

[A.A.C.R18-2-306.A.3.c]

(2) The Permittee shall maintain 95 percent data recovery on all the data obtained from the CEMS. Compliance with this data recovery requirement shall be determined based on total operating time of the facility during the reporting period.

[A.A.C. R18-2-306.A.3.c]

(3) The CEMS shall be designed so that one cycle of operation is complete for each successive 15-minute period.

[A.A.C. R18-2-306.A.3.c]

(4) All data gaps shall be substituted following the relevant requirements of 40 CFR Part 75, Subpart D.

[A.A.C. R18-2-306.A.3.c]

e. The Permittee shall submit a semi-annual report along with the semi-annual compliance certification to include the following information:

[A.A.C. R18-2-306.A.3.c]

(1) A monitoring systems performance report or a summary report

form to include:

(a) All the continuous monitoring system downtime in the corresponding reporting period due to:

(i) Monitor equipment malfunction;

(ii) Non-Monitor equipment malfunction;

(iii) Quality assurance calibration;

(iv) Other known factors;

(v) Unknown causes;

(vi) Total CEMS downtime;

(vii) (Total CEMS downtime) * 100 / (Total source operating time)

(b) Exceedances are defined as any emissions in excess of the limits set in Condition II.F.2. The Permittee shall follow the procedures in Section XII of Attachment "A" in reporting all exceedances.

f. On a daily basis, the Permittee shall keep records of bicarbonate injection rates.

[A.A.C R18-2-306.A.3.c]

5. Performance Testing Requirement

[A.A.C. R18-2-312]

The Permittee shall conduct the following performance tests annually to test for hazardous air pollutant emissions from the boiler stack.

a. EPA Reference Method 29 for total HAPs metals

b. CARB 430 for formaldehyde and acetaldehyde

c. TO-15 for organic HAPS including acrolein, benzene, and toluene

G. Oxygen

1. Monitoring, Recordkeeping, and Reporting Requirements

a. *The Permittee shall calibrate*, maintain, and operate a *continuous monitoring system*, and record the output of the system in percent, *for measuring of oxygen levels in the boiler stack.*

[A.A.C.R18-2-306.A.3.c and A.A.C.R18-2-331.A.3.c]
[Material permit condition is underlined and italicized]

b. The Permittee shall follow the monitoring procedures and performance specifications of 40 CFR 60, Appendix B and Appendix F.

[A.A.C.R18-2-306.A.3.c]

c. The Permittee shall maintain 95 percent data recovery on all the data obtained from the CMS. Compliance with this data recovery requirement shall be determined based on total operating time of the facility during the semiannual reporting period.

d. The CMS shall be designed so that one cycle of operation is complete for each successive 15-minute period.

e. All data gaps shall be filled with the average hourly oxygen concentration and volume recorded by the CMS for the hour immediately before and the hour immediately after the missing data period.

f. The oxygen analyzer span range shall be 0 to 25 percent. The oxygen analyzer shall meet the data quality assurance criteria of 40 CFR Part 60, Appendix B, Performance Specification 3 and Appendix F.

g. The Permittee shall submit a semi-annual report based on the same reporting period as compliance certification to include the following information:

(1) A monitoring systems performance report or a summary report form to include:

(2) All the continuous monitoring system downtime in the corresponding reporting period due to:

(a) Monitor equipment malfunction;

(b) Non-Monitor equipment malfunction;

(c) Quality assurance calibration;

(d) Other known factors;

(e) Unknown causes;

(f) Total CMS downtime;

(g) (Total CMS downtime) *100
(Total source operating time)

2. Performance Testing Requirement

[A.A.C. R18-2-312]

The Permittee shall conduct an annual RATA for the CMS for O_2 levels in the

boiler stack.

III. COOLING TOWER REQUIREMENTS

A. Particulate Matter and Opacity

1. Emission Limitations/Standards

a. Particulate Matter

The Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere in any 1 hour from the cooling towers in total quantities in excess of the amount calculated by the following equation:

$E = 55.0P^{0.11} - 40$

where:
E = the maximum allowable particulate emissions rate in pounds-mass per hour.
P = the process weight rate in tons-mass per hour.

[A.A.C. R18-2-730.A.1]

b. Opacity

The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any cooling tower stack, opacity which exceeds 20% as measured by EPA Reference Method 9.

[A.A.C. R18-2-702.B.3]

c. If the presence of uncombined water is the only reason for an exceedance of any visible emissions requirement in this Section, the exceedance shall not constitute a violation of the applicable opacity limit.

[A.A.C. R18-2-702.C]

B. Monitoring, Recordkeeping, and Reporting Requirements

The Permittee shall conduct a monthly EPA Reference Method 9 observation of emissions emanating from the cooling tower. The Permittee shall keep a record of the name of the observer, date and time of observation, and the results of the observation. If the observation results in an exceedance of the opacity limit contained in Condition III.A.1.b, the Permittee shall take corrective action and log all such actions. Such exceedances shall be reported as excess emissions in accordance with Condition XII.A.1 of Attachment "A".

[A.A.C. R18-2-306.A.3]

C. Permit Shield

[A.A.C. R18-2-325]

Compliance with the conditions of this Section shall be deemed compliance with A.A.C. R18-2-730.A.1, A.A.C. R18-2-702.B.3, and A.A.C. R18-2-702.C.

IV. MATERIAL HANDLING OPERATIONS

A. Particulate Matter and Opacity

1. Emission Limitations/Standards

a. Particulate Matter

The Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere in any 1-hour from the material handling operations in total quantities in excess of the amount calculated by the following equation:

$E = 55.0\ P^{0.11} - 40$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.
P = the process weight rate in tons-mass per hour.

[A.A.C. R18-2-730.A.1]

b. Opacity

The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any material handling operation, opacity which exceeds 20% as measured by EPA Reference Method 9. [A.A.C. R18-2-702.B.3]

c. If the presence of uncombined water is the only reason for an exceedance of any visible emissions requirement in this Section, the exceedance shall not constitute a violation of the applicable opacity limit.

[A.A.C. R18-2-702.C]

B. Monitoring, Recordkeeping, and Reporting Requirements

The Permittee shall conduct a monthly EPA Reference Method 9 observation of emissions emanating from the material handling operations. The Permittee shall keep a record of the name of the observer, date and time of observation, and the results of the observation. If the observation results in an exceedance of the opacity limit contained in Condition IV.A.1.b, the Permittee shall take corrective action and log all such actions. Such exceedances shall be reported as excess emissions in accordance with Condition XII.A.1 of Attachment "A".

[A.A.C. R18-2-306.A.3]

C. Permit Shield

[A.A.C. R18-2-325]

Compliance with the conditions of this Section shall be deemed compliance with A.A.C. R18-2-730.A.1, A.A.C. R18-2-702.B.2, A.A.C. R18-2-702.B.3, and A.A.C. R18-2-702.C.

V. FUGITIVE DUST REQUIREMENTS

A. Applicability

This Section applies to any source of air contaminants which, due to lack of an identifiable emissions point or plume, cannot be considered a point source.

B. Particulate Matter and Opacity

1. Open Areas, Roadways & Streets, Storage Piles, and Material Handling

a. Opacity of emissions from any fugitive dust non-point source shall not be greater than 40% measured in accordance with the Arizona Testing Manual, Reference Method 9.

b. The Permittee shall not cause, allow or permit visible emissions from any fugitive dust point source, in excess of 20% opacity.

[A.A.C. R18-2-702.B]

c. The Permittee shall employ the following reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne:

(1) Keep dust and other types of air contaminants to a minimum in an open area where construction operations, repair operations, demolition activities, clearing operations, leveling operations, or any earth moving or excavating activities are taking place, by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means;

[A.A.C. R18-2-604.A]

(2) Keep dust to a minimum from driveways, parking areas, and vacant lots where motor vehicular activity occurs by using an approved dust suppressant, or adhesive soil stabilizer, or by paving, or by barring access to the property, or by other acceptable means; [A.A.C. R18-2-604.B]

(3) Keep dust and other particulates to a minimum by employing dust suppressants, temporary paving, detouring, wetting down or by other reasonable means when a roadway is repaired, constructed, or reconstructed;

[A.A.C. R18-2-605.A]

(4) Take reasonable precautions, such as wetting, applying dust suppressants, or covering the load when transporting material likely to give rise to airborne dust;

[A.A.C. R18-2-605.B]

(5) Take reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods when crushing, handling, or conveying material likely to give rise to airborne dust;

[A.A.C. R18-2-606]

(6) Take reasonable precautions such as chemical stabilization, wetting, or covering when organic or inorganic dust producing material is being stacked, piled, or otherwise stored;

[A.A.C. R18-2-607.A]

(7) Operate stacking and reclaiming machinery utilized at storage piles at all times with a minimum fall of material, or with the use of spray bars and wetting agents;

[A.A.C. R18-2-607.B]

(8) Any other method as proposed by the Permittee and approved by the Director.

[A.A.C. R18-2-306.A.3.c]

2. Monitoring and Recordkeeping Requirements

a. The Permittee shall maintain records of the dates on which any of the activities listed in Conditions V.B.1.c(1) through V.B.1.c(8) were performed and the control measures that were adopted.

[A.A.C. R18-2-306.A.3.c]

b. Opacity Monitoring Requirements

(1) A certified Method 9 observer shall conduct a monthly visual survey of visible emissions from the fugitive dust sources. The Permittee shall keep a record of the name of the observer, the date and location on which the observation was made, and the results of the observation.

(2) If the observer sees a visible emission from a fugitive dust source that on an instantaneous basis appears to exceed applicable opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the visible emission.

(a) If the six-minute opacity of the visible emission is less than or equal to applicable opacity standard, the observer shall make a record of the following:

(i) Location, date, and time of the observation; and

(ii) The results of the Method 9 observation.

(b) If the six-minute opacity of the visible emission exceeds applicable opacity standard, then the Permittee shall do the

following:

(i) Record the exceedance observed;

(ii) Adjust or repair the controls or equipment to reduce opacity to below the applicable standard; and

(iii) Report it as an excess emission under Section XII.A of Attachment "A".

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with A.A.C. R18-2-604.A, A.A.C. R18-2-604.B, A.A.C. R18-2-605, A.A.C. R18-2-606, A.A.C. R18-2-607, A.A.C. R18-2-608 and A.A.C. R18-2-612.

[A.A.C. R18-2-325]

VI. MOBILE SOURCE REQUIREMENTS

A. Applicability

The requirements of this Section are applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles, agricultural vehicles, or are agricultural equipment used in normal farm operations. Mobile sources shall not include portable sources as defined in A.A.C. R18-2-101.89.

[A.A.C.R18-2-801]

B. Particulate Matter and Opacity

1. Emission Limitations/Standards

a. Off-Road Machinery

The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any off-road machinery, smoke for any period greater than ten consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. Off-road machinery shall include trucks, graders, scrapers, rollers, and other construction and mining machinery not normally driven on a completed public roadway.

[A.A.C.R18-2-802.A]

b. Roadway and Site Cleaning Machinery

(1) The Permittee shall not cause, allow or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than ten consecutive seconds,

the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. [A.A.C.R18-2-804.A]

(2) The Permittee shall take reasonable precautions, such as the use of dust suppressants, before the cleaning of a site, roadway, or alley. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means. [A.A.C. R18-2-804.B]

c. Unless otherwise specified, no mobile source shall emit smoke or dust the opacity of which exceeds 40%. [A.A.C.R18-2-801.B]

2. Recordkeeping Requirement

The Permittee shall keep a record of all emissions related maintenance activities performed on the Permittee's mobile sources stationed at the facility as per manufacturer's specifications. [A.A.C.R18-2-306.A.5.a]

3. Permit Shield [A.A.C.R18-2-325]

Compliance with the conditions of this Section shall be deemed compliance with A.A.C. R18-2-801, A.A.C. R18-2-802.A, A.A.C. R18-2-804.A and A.A.C. R18-2-804.B.

VII. OTHER PERIODIC ACTIVITY REQUIREMENTS

A. Abrasive Blasting

1. Particulate Matter and Opacity

a. Emission Limitations/Standards

(1) The Permittee shall not cause or allow sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Good modern practices include:

(a) wet blasting;

(b) effective enclosures with necessary dust collecting equipment; or

(c) any other method approved by the Director. [A.A.C. R18-2-726]

(2) Opacity

The Permittee shall not cause, allow, or permit to be emitted into

the atmosphere from any cooling tower stack, opacity which exceeds 20% as measured by EPA Reference Method 9.
[A.A.C. R18-2-702.B.3]

b. Monitoring and Recordkeeping Requirement

Each time an abrasive blasting project is conducted, the Permittee shall log in ink or in an electronic format, a record of the following:

(1) The date the project was conducted;

(2) The duration of the project; and

(3) Type of control measures employed.
[A.A.C. R18-2-306.A.3.c]

c. Permit Shield [A.A.C.R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-726, and A.A.C. R18-2-702.B.3.

B. Use of Paints

1. Volatile Organic Compounds

a. Emission Limitations/Standards

While performing spray painting operations, the Permittee shall comply with the following requirements:

(1) The Permittee shall not conduct or cause to be conducted any spray painting operation without minimizing organic solvent emissions. Such operations, other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96 percent of the overspray.
[A.A.C.R18-2-727.A]

(2) The Permittee or their designated contractor shall not either:

(a) Employ, apply, evaporate, or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes; or

(b) Thin or dilute any architectural coating with a photochemically reactive solvent. [A.A.C.R18-2-727.B]

(3) For the purposes of Conditions VII.B.1.a(2), a photochemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in Conditions VII.B.1.a(3)(a) through

VII.B.1.a(3)(c) below, or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:

(a) A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation-hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: 5 percent.

(b) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent.

(c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.

[A.A.C.R18-2-727.C]

(4) Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the groups of organic compounds described in Conditions VII.B.1.a(3)(a) through VII.B.1.a(3)(c) above, it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

[A.A.C.R18-2-727.D]

b. Monitoring and Recordkeeping Requirements

(1) Each time a spray painting project is conducted, the Permittee shall log in ink, or in an electronic format, a record of the following:

(a) The date the project was conducted;

(b) The duration of the project;

(c) Type of control measures employed;

(d) Material Safety Data Sheets for all paints and solvents used in the project; and

(e) The amount of paint consumed during the project.

(2) Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of Condition VII.B.1.b.(1) above. [A.A.C. R18-2-306.A.3.c]

c. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance

with A.A.C.R18-2-727.

2. Opacity

a. Emission Limitation/Standard

The Permittee shall not cause, allow or permit visible emissions from painting operations to exceed 20% opacity as measured by EPA Reference Method 9. [A.A.C. R18-2-702.B.3]

b. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with A.A.C.R18-2-702.B.2 and A.A.C. R18-2-702.B.3.

C. Demolition/Renovation - Hazardous Air Pollutants

1. Emission Limitation/Standard

The Permittee shall comply with all of the requirements of 40 CFR 61 Subpart M (National Emissions Standards for Hazardous Air Pollutants - Asbestos). [A.A.C. R18-2-1101.A.8]

2. Monitoring and Recordkeeping Requirement

The Permittee shall keep all required records in a file. The required records shall include the "NESHAP Notification for Renovation and Demolition Activities" form and all supporting documents. [A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-1101.A.8. [A.A.C. R18-2-325]

VIII. INTERNAL COMBUSTION ENGINES

A. Applicability

This Section is applicable to the internal combustion engines listed in Attachment "C".

B. Fuel Limitations

1. The Permittee shall only burn diesel fuel that contains no more than 500 ppm (0.05%) sulfur in the internal combustion engines.

[A.A.C. R18-2-719.H, 306.01.A, 306.A.2, and 331.A.3.a]
[Material Permit Conditions are indicated by underline and italics]

2. Permit Shield

Compliance with this Section shall be deemed compliance with A.A.C. R18-2-719.H.

[A.A.C. R18-2-325]

C. Particulate Matter and Opacity

1. Emissions Limitations and Standards

a. The Permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from any stationary rotating machinery into the atmosphere in excess of the amounts calculated by the following equation:

$E = 1.02\ Q^{0.769}$

Where

E = the maximum allowable particulate emission rate in pounds-mass per hour

Q = the heat input in million Btu per hour

[A.A.C. R18-2-719.C.1]

b. For purposes of this Section, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. The total heat input of all operating fuel-burning units on a plant or premises shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

[A.A.C. R18-2-719.B]

c. Opacity

i. The Permittee shall not cause, allow or permit to be emitted into the atmosphere from any stationary rotating machinery, smoke for any period greater than 10 consecutive seconds which exceeds 40 percent opacity.

[A.A.C. R18-2-719.E]

ii. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

[A.A.C. R18-2-719.E]

2. Monitoring, Reporting, and Recordkeeping

a. The Permittee shall keep a record of the fuel supplier certification for each delivery of fuel to the facility. The certification shall contain information regarding the name of fuel supplier and lower heating value of the fuel. These records shall be made available to ADEQ upon request.

[A.A.C. R18-2-306.A.3.c]

b. A certified EPA Reference Method 9 observer shall include the IC engine stacks in the scheduled monthly survey of visible emissions, if the

IC engines are in operation at that time. If the opacity of the emissions observed appears to exceed the standard, the observer shall conduct a certified EPA Reference Method 9 observation. The Permittee shall keep records of the initial survey and any EPA Reference Method 9 observations performed. These records shall include the emission point observed, name of observer, date and time of observation, location and the results of the observation.

[A.A.C. R18-2-306.A.3.c]

c. If the observation results in a Method 9 opacity reading in excess of 40 percent, the Permittee shall report this to ADEQ as excess emission and initiate appropriate corrective action to reduce the opacity below 40 percent. The Permittee shall keep a record of the corrective action performed.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with this Section shall be deemed compliance with A.A.C. R18-2-719.C.1, A.A.C. R18-2-719.E, and A.A.C. R18-2-719.I.

[A.A.C. R18-2-325]

D. Sulfur Dioxide

1. Emission Limitations and Standards

The Permittee shall not emit or cause to emit more than 1.0 pound of sulfur dioxide per million Btu.

[A.A.C. R18-2-719.F]

2. Monitoring, Recordkeeping, and Reporting

a. The Permittee shall keep daily records of the sulfur content of the fuel oil being fired in the IC Engines. The Permittee shall keep records of fuel supplier certifications to demonstrate compliance with the sulfur content limit specified in this Conditions IV.C.1 and IV.E.1. The certification shall contain the sulfur content of the fuel and the method used to determine the sulfur content of the fuel. These records shall be made available to ADEQ upon request.

[A.A.C. R18-2-306.A.3.c and -719.I]

b. The Permittee shall report to the Director any daily period during which the sulfur content of the fuel being fired in the machine exceeds 0.8 percent.

[A.A.C. R18-2-719.J]

3. Permit Shield

Compliance with this Section shall be deemed compliance with A.A.C. R18-2-719.F, A.A.C. R18-2-719.I, and A.A.C. R18-2-719.J.

[A.A.C. R18-2-325]

E. Hazardous Air Pollutants

1. The requirements of 40 CFR 63, Subpart ZZZZ are applicable to the internal combustion engines identified in Attachment "C" manufactured before June 12, 2006.

[40 CFR 63.6580 and 40 CFR 63.6590]

2. General Requirements

a. Fuel Requirements

Beginning January 1, 2015, the Permittee shall use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

[40 CFR 63.6604(b)]

b. At all times, the Permittee shall operate and maintain the emergency engine, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by 40 CFR 63, Subpart ZZZZ have been achieved.

[40 CFR 63.6605(b)]

c. Operation and Maintenance

(1) The Permittee shall demonstrate continuous compliance with the following operation and maintenance requirements:

[40 CFR 63.6640(a) and 40 CFR 63, Subpart ZZZZ, Table 2d]

(a) Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

[40 CFR 63, Subpart ZZZZ, Table 2d]

(b) The Permittee shall change the oil and filter every 500 hours operation or annually, whichever comes first.

[40 CFR 63, Subpart ZZZZ, Table 2d]

(c) The Permittee shall inspect the air cleaner every 1000 hours of operation or annually, whichever come first, and replace as necessary.

[40 CFR 63, Subpart ZZZZ, Table 2d]

(d) The Permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

[40 CFR 63, Subpart ZZZZ, Table 2d]

(e) The Permittee shall operate and maintain the emergency engine and after-treatment control devices (if any)

according to the manufacturer's emission-related written instructions. If no instructions are available, the Permittee shall develop their own maintenance plan which shall provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

40 CFR 63.6625(e)]

(f) The Permittee shall install a non-resettable hour meter if one is not already installed.

40 CFR 63.6625(f)]

(g) The Permittee shall minimize the emergency engine's time spent at idle and minimize the engines startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

[40 CFR 63.6625(h)]

(h) The Permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Condition IV.E.2.c(1)(a). If the Permittee utilizes an oil analysis program, the Permittee shall follow the requirements of 40 CFR 63.6625(i).

[40 CFR 63.6625(i)]

(2) The Permittee shall report each instance in which Condition IV.E.2.c(1)(a) through Condition IV.E.2.c(1)(d) were not met. These instances are deviations from the emission and operating limitations in 40 CFR 63, Subpart ZZZZ. These deviations shall be reported according to the requirements in Condition IV.E.4.a.

[40 CFR 63.6640(b)]

3. Compliance Demonstration

The Permittee shall demonstrate continuous compliance by operating the emergency engine according to the requirements of 40 CFR 63.6640(f)(1) through 40 CFR 63.6640(f)(4).

[40 CFR 63.6640(f)]

4. Record Keeping and Reporting Requirements

a. The Permittee shall submit all deviations and compliance certifications pursuant to timelines specified in Condition VII.A and Condition XII.B of Attachment A, respectively.

[40 CFR 63.6650(b)(5)]

(1) Along with the Compliance Certifications submitted for the Conditions specified in Section XIII of Attachment "B", the Permittee shall submit a Compliance Report containing the information in 40 CFR 63.6650(c)(1) through 40 CFR 63.6650(c)(5):

[40 CFR 63.6650(c)]

(2) For each deviation from an operating limitation that occurs for the emergency engine, the Compliance Report shall contain the information required by 40 CFR 63.6650(d).

[40 CFR 63.6650(d)]

(a) The total operating time of the Emergency Diesel Engine at which the deviation occurred during the reporting period.

[40 CFR 63.6650(d)(1)]

(b) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

[40 CFR 63.6650(d)(2)]

b. The Permittee shall keep the records specified in 40 CFR 63.6655(a) and 40 CFR 63.6655(e).

[40 CFR 63.6655(a) and 40 CFR 63.6655(e)]

c. Thee Permittee shall keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the Permittee operated and maintained the emergency engine according to manufacturer's emission related operation and maintenance instructions or the Permittee's maintenance plan.

[40 CFR 63.6655(e) and 40 CFR 63, Table 6, Item 9]

5. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with 40 CFR 63.6580, 40 CFR 63.6590, 40 CFR 63.6604(b), 40 CFR 63.6605(b), 40 CFR 63.6640(a). 40 CFR 63, Subpart ZZZZ, Table 2d, 40 CFR 63.6625(e), 40 CFR 63.6625(f), 40 CFR 63.6625(h), 40 CFR 63.6625(i), 40 CFR 63.6625(j), 40 CFR 63.6640(b), 40 CFR 63.6640(f), 40 CFR 63.6650(b)(5), 40 CFR 63.6650(c), 40 CFR 63.6650(d), 40 CFR 63.6655(a), 40 CFR 63.6655(e), and 40 CFR 63, Table 6, Item 9.

[A.A.C. R18-2-325]

ATTACHMENT "C": EQUIPMENT LIST

Air Quality Control Permit No. 53023 (As Amended by No. 59767)
For
Novo BioPower, LLC – Novo BioPower, LLC

EQUIPMENT TYPE	CONTROLS	MAX. CAPACITY	MAKE	MODEL	SERIAL NUMBER/ EQUIPMENT #	DATE OF MFG.
Boiler	SNCR for NO_X	340 MMBtu/hr	Babcock and Wilcox	2 drum	Not available	REBUILT 2006
Multiclone Collectors		205,848 acfm	Barrons	14K35-0710	Not Available	1993
Fabric Filter	Sodium Bicarbonate Injection for HCl	337,500 acfm	Wheelabrator	Pulse-jet	414-3429-G, 414-3401-G 414-3408-G, 414-3415-G 414-3422-G, 414-3429-G	1990
Cooling Tower		28,000 gpm	Marley	Mechanical Draft	CT-1	2006
Disc Screen		30 ton/hr	Rader	40-11	338589	2002
Hammer Hog		20 ton/hr	Weston	30-in	Not available	1966
Boiler Fuel Conveyor #1		N/A	N/A	N/A	414-3041-K	N/A
Boiler Fuel Conveyor # 2		N/A	N/A	N/A	414-3042-K	N/A
Boiler Fuel Conveyor # 3		N/A	N/A	N/A	414-3043-K	N/A
Sludge Bin Outfeed Conveyor		N/A	N/A	N/A	414-2135-K	N/A
Wood Pile Reclaim Conveyor # 1		N/A	N/A	N/A	414-3017-K	N/A
Wood Pile Reclaim Conveyor # 2		N/A	N/A	N/A	414-3018-K	N/A
Wood Pile Reclaim Conveyor # 3		N/A	N/A	N/A	414-3025-K	N/A
Wood Pile Stack Out Conveyor		N/A	N/A	N/A	414-3010-K	N/A
Truck Dump Outfeed Conveyor # 1		N/A	N/A	N/A	414-3006-K	N/A
Truck Dump Outfeed Conveyor # 2		N/A	N/A	N/A	414-3008-K	N/A
Wood Pile Reclaimer # 1		N/A	N/A	N/A	414-3015-K	N/A
Wood Pile Reclaimer # 2		N/A	N/A	N/A	414-3016-K	N/A
Truck/Rail Dump Receiving Hopper		N/A	N/A	N/A	414-3005-K	N/A
Sludge Bin		N/A	N/A	N/A	414-2130-T	N/A
Internal Combustion Engines						
Diesel Fire Pump #1		225 HP	N/A		Fire Pump #1	1974
Diesel Fire Pump #2		269 HP	N/A		Fire Pump #2	1997

TBD = to be determined, N/A = not available